

STATE OF MONTANA MONTANA DEPARTMENT OF TRANSPORTATION JOB PROFILE AND EVALUATION

SECTION I - Identification

Working Title:

District Construction Operations Engineer

Class Code Number: 119417

Class Code Title: Engineering Manager

Pay Band: 7

Position Number: 52202

☐ FLSA Exempt

Profile Completed By: Dean Jones

DCE Panel Matt Strizich

Debby Williams

Human Resources Specialist

Brian Cameron CMS, LLC

Department:

Transportation

Division & Bureau:

District Engineering

Section & Unit:

Missoula District

Work Address:

2100 W. Broadway

Missoula, Mt. 59807-7039

Phone: 406-442-6001

Work Phone: (406) 523-5823

406-494-9634

406-444-6945

406-442-4934

Work Unit Mission Statement or Functional Description:

The MDT's mission is to serve the public by providing a transportation system and services that emphasize quality, safety, cost effectiveness, economic vitality and sensitivity to the environment.

The Highways and Engineering Division prepares projects for bidding and coordinates highway construction. The Division is made up of the Materials, Construction, Right-of-Way, Bridge, Traffic and Safety, Environmental Services, Engineering Oversight, and Preconstruction bureaus; the CADD Systems and Engineering Management Support sections; and five District Construction Offices in Missoula, Butte, Great Falls, Glendive, and Billings for budget and workforce purposes. Each District oversees highway and bridge construction from the time a construction contract is awarded to a private contractor until the project is completed and approved. During highway construction projects, District personnel work closely with the contractor, conducting construction surveys, inspecting the work, and monitoring traffic control.

Describe the Job's Overall Purpose:

The District Construction Engineering Project Manager is responsible for managing the delivery of major highway construction projects throughout the District. The position also provides management support in developing and implementing program plans, goals and objectives; reviewing and recommending standards policies, and procedures; and administering ongoing District Construction program operations. The position is responsible for directing the final review of plans, specifications, and estimates for accuracy and ability to be constructed; overseeing environmental review and permitting processes; monitoring contract conformance; determining and resolving technical construction problems within proposed contract plans; and developing solutions to a broad range of engineering deficiencies and contract administration problems. The incumbent reports to the District Construction Engineering Manager (#51049) and provides direct supervision for 11 professional and technical staff (11.0 FTE).

SECTION II - Major Duties or Responsibilities

% of Time

A. <u>CONSTRUCTION PROJECT MANAGEMENT</u>

40%

- 1. Directs the final review of construction plans, specifications, and estimates for accuracy and ability to be constructed. This involves interpretation of plans and specifications, assessing various options to resolve construction problems, and identifying the most cost-effective way to attain project results and compliance with specifications. Develops solutions to a broad range of engineering deficiencies and contract administration problems to facilitate project completion and ensure compliance with federal and State construction and contract requirements. This involves coordination with engineering and design professionals and the theoretical application and testing of engineering concepts to assess the feasibility of various alternatives.
- Reviews proposed contract plans and special provisions for technical construction problems and coordinates revisions with other MDT bureaus and divisions. Provides assistance to engineering staff on construction projects and recommends changes that should be made on future contract plans to correct difficulties encountered in construction and to improve the quality of finished facilities.
- 3. Directs the preparation of reports, studies, summaries, research proposals, special reports, instructions, and procedures related to construction projects as directed by the District Administrator to ensure sound judgment and engineering practices are incorporated. Directs and oversees the preparation of program data (e.g., construction trends, change order tracking, detailed drawings, etc.) used to establish standards, specifications, and policies.
- 4. Oversees and coordinates the environmental review and permitting processes necessary to complete construction projects in compliance with State and federal requirements (e.g., MEPA, Clean Water Act, air pollution control requirements, etc.). This involves monitoring permit application and document preparation (EAs and EISs) processes to ensure they are completed appropriately and on time, coordinating environmental requirements (e.g., erosion control) with contractors, ensuring continuity of permits for the life of projects, and serving as liaison with environmental and other agencies (e.g., DEQ, DNRC, Corps of Engineers, etc.).
- 5. Reviews and approves change orders, extra work orders, contractor progress payments, final project acceptance, and final contractor payments to ensure contract charges and payments are legitimate, necessary, and properly documented. This involves assessment of original contract agreements, costs to date, available funding, federal requirements, monetary impact of the

- change, engineering principles, uniformity of contract administration, etc., and ensuring project overruns are adequately explained to the FHWA to maintain federal participation.
- 6. Evaluates contractor proposals for value-engineering alternatives to identify more cost-effective ways of meeting Department goals. Performs advanced analysis of value-engineering proposals to determine if similar project results (e.g., structural integrity, useful life, maintenance requirements, etc.) can be attained in a more cost-effective manner.
- 7. Develops solutions to a broad range of engineering deficiencies and contract administration problems to facilitate project completion and ensure compliance with federal and State construction and contract requirements. This involves coordination with engineering and design professionals and the theoretical application and testing of engineering concepts to assess the feasibility of various alternatives. This includes analyzing and evaluating project addenda and factors such as the significance of the addenda, monetary and legal risks to MDT, cost-effectiveness, and precedent.
- 8. Provides engineering design advice and technical assistance to other Districts, MDT Engineering and Maintenance personnel, counties, individuals, contractors, and others regarding project design practices; contract administration; claims management; and construction regulations, codes, and criteria.
- Mediates disputes between contractors and District staff related to contracts, contract claims, and project payments. This involves evaluating disputes, scheduling mediation conferences, presenting the State's case in the form of engineering facts and expert opinions, and negotiating settlements.
- 10. Directs and coordinates the review of contract claims with MDT legal, engineering, and Construction Bureau staff as necessary. Provides or coordinates expert testimony in court cases involving contractor disputes.

B. DISTRICT CONSTRUCTION PROGRAM MANAGEMENT

20%

- 1. Evaluates and recommends operational strategies and objectives to ensure the District's Construction Program remains current with federal and other national standards and develops cost-effective implementation plans for new technology and approaches in the highway construction field. This involves assessing construction review results and trends, construction processes, materials standards, prefabrication processes, new equipment, environmental requirements, and existing plans to recommend new initiatives, modifications, and contingencies that support project delivery, engineering and contract requirements, and operational efficiency.
- Oversees and monitors construction and contract administration policies, procedures, and specifications that agree with federal requirements. Recommends Quality Control and Quality Assurance specifications for determining contractor incentives by gathering input from contractors and MDT staff and developing parameters that provide a quality product and are reasonably attainable.
- 3. Implements and monitors strategies construction review, contract administration, contract claims management, and related project activities. This involves assessing short and long-range program needs, fiscal limitations, staff training, contractor ability to produce, economic impacts (e.g., on contractors, construction costs, highway efficiency, etc.), and other factors. Coordinates activities among other districts and contractors to ensure all parties are ready and able to implement new specifications.

- 4. Maintains liaisons with the Federal Highway Administration; other districts and MDT divisions; and state, local, and tribal agencies. This involves exchanging information to gain cooperation, coordinate activities, explain projects, and resolve conflicts by providing engineering advice, interpreting statutes and regulations, developing memoranda of understanding, negotiating the use of staff and other resources, and coordinating and directing cooperative projects.
- 5. Provides technical consultation and department representation for national uniform highway methods and design specifications development to ensure that the State's interests are represented, establish uniform specifications and design methods, and assess necessary changes to MDT construction programs or specifications.
- 6. Researches, develops, reviews, and recommends implementation strategies for new technology and advancements related to highway construction and related activities that may affect MDT operations. This involves assessment of administrative (e.g., contract administration, claims management, etc.), engineering, materials, and economic factors.
- 7. Represents the District and Department at public meetings, national meetings, media interviews, and with other government or private transportation interests; evaluates information; and explains, promotes, and defends Department positions on construction activities and projects. Serves as liaison between MDT and contractors and materials suppliers to ensure construction specifications, materials, techniques, and procedures are fair, reasonable, and acceptable to all contracting parties. Promotes an environment for open, fair, and honest State-contractor relationships.

C. <u>DISTRICT CONSTRUCTION OPERATIONS</u>

20%

- Oversees and coordinates administrative details related to District Construction program operations to ensure expenditures are cost-effective and ensure compliance with State and federal requirements. This involves researching design, engineering, materials, and construction practices and standards (e.g., AASHTO and FHWA standards), determining their applicability to District operations, and developing policies and procedures to implement the most efficient technology and practices.
- 2. Monitors compliance with established operational policies and procedures and achievement of goals through consultation and meetings with subordinate staff and supervisors (e.g., weekly meetings, status reports, etc.), personal review of construction project and contract administration plans, and through discussions with other MDT staff and management. Monitors compliance with established policies in and reviews and approves atypical or developmental methods and procedures.
- 3. Provides project information for the preparation of biennial budgets. This involves forecasting historical expenses, contractor capability, types of planned projects (e.g., rural vs. urban highway paving projects, utility impacts, etc.), inflation, changes in construction processes and materials, etc. for planned and active projects and providing data and recommendations to the District Construction Engineering Manager. Monitors program expenditures to ensure the money is allocated as designated and tracks funding levels through review of fiscal reports and approval of expenditures.
- 4. Oversees the development, negotiation, and monitoring of environmental, engineering, research, and related contracts. This involves directing the development of requests for proposals, reviewing and coordinating vendor service contracts, and monitoring and evaluating work undertaken by contractors on District projects.

5. Coordinates and oversees equipment procurement processes by developing specifications, ensuring compliance to Department procurement practices, developing EPP budget justifications and submitting requests, and integrating equipment into ongoing operations to ensure maximization of District resources.

D. STAFF MANAGEMENT

15%

- Directly and indirectly manages professional and technical staff (11.0 total FTE) of the District Construction program by reviewing and revising overall work plans, priorities, and procedures and monitoring progress through meetings and consultations. Conducts staff meetings, disseminates data, and promotes information exchange for support and advancement of District, Division, and Department goals.
- 2. Establishes and approves overall responsibilities and allocation of subordinate positions. Recommends and justifies requests for additional personnel as necessary.
- 3. Identifies staffing needs, recruits and hires employees, and allocates personnel to adequately support ongoing District Construction operations and activities. This involves ensuring compliance with State and federal employment and civil rights laws throughout the hiring process, assigning personnel screening and selection committees, reviewing results and making recommendations for hiring, and ensuring proper training and orientation of new employees.
- 4. Evaluates the performance of positions directly supervised and completes performance evaluations. Recommends, implements, and monitors corrective actions including discipline and termination. Enforces disciplinary policies to ensure consistency in the application of disciplinary actions.
- 5. Ensures that subordinate staff complies with State and Department personnel rules, regulations, and policies. Resolves grievances at the lowest level whenever possible.

D. <u>OTHER DUTIES</u> <u>05%</u>

This position performs a variety of other duties as assigned by the District Construction Engineering Manager in support of the Department mission and District objectives. This includes exchanging information with consultants, agency staff, and the public; providing training, education, and professional and technical assistance; directing special projects; participating in ongoing training and educational programs; and performing a variety of other duties as directed.

2. Specific examples of problems solved, decisions made, or procedures followed when performing the most frequent duties of this position include:

The position is responsible for directing the final review of plans, specifications, and estimates for accuracy and ability to be constructed; determining and resolving technical construction problems within proposed contract plans; and developing solutions to a broad range of engineering deficiencies and contract administration problems to facilitate project completion and ensure compliance with federal and State construction and contract requirements. The position also reviews and approves change orders, extra work orders, contractor progress payments, final project acceptance, and final contractor

payments to ensure contract charges and payments are legitimate, necessary, and properly documented; monitors environmental permit application and document preparation (EAs and EISs) processes to ensure they are completed appropriately and on time; and evaluates contractor proposals for value-engineering alternatives to identify more cost-effective ways of meeting Department goals. The position plays a central role in managing District-wide project delivery as well as ongoing program operations.

3. The most complicated aspect of this position is:

The most complex aspects of the position include the assessment of major highway construction project objectives, fiscal limitations, staff training, contractor ability to produce, economic impacts (e.g., on contractors, construction costs, highway efficiency, etc.), and other factors to ensure effective project delivery. The position is also responsible for assessing construction review results and trends, construction processes, materials standards, prefabrication processes, new equipment, environmental requirements, etc., and developing long-term implementation strategies. Mediation of disputes related to contracts, contract claims, and project payments involves understanding and sensitivity to complex engineering, contract, and project dynamics affecting involved parties and project objectives.

- 4. Guidelines, manuals, or written procedures that support this position include:
 Available laws, regulations, guidelines, manuals, and/or procedures include Engineering
 Division objectives and District goals; State, federal, AASHTO, and FHWA standards; project
 specifications; Montana Materials Manual, Montana Construction Manual and Standard
 Specifications for Road and Bridge Design; environmental rules and regulations; and project
 management documentation.
- 5. Which of the duties and/or specific tasks listed under 1. (above) are considered "essential functions" that must be performed by this position (with or without accommodations)? (If you need information or training on the identification of essential functions, please contact MDT Human Resources Division.)

The following duties are considered essential functions because they require specialized expertise and skill and are the primary reasons the job exists:

Duty A: Construction Project Management

Duty B: District Construction Program Management

Duty C: District Construction Operations

Duty D: Staff Management

The following mental and physical demands are associated with these essential functions:

PHYSICAL

- Light lifting (up to 10 lbs.)
- Ability to walk over uneven terrain or in water
- Extensive travel within the state to project locations (over 1,000 miles per month), and out of state travel by airline to national conferences and meetings.
- Operating a personal computer
- Communicate in writing, in person, and over the phone

MENTAL

- Deal with the public on a regular basis
- Ability to multi-task

- Demands for accuracy in all aspects of work
- · Ability to meet inflexible deadlines
- Decision making that affects public health and safety
- Computing arithmetic operations
- Comparing data
- Compiling information
- Analyzing
- Coordinating
- Synthesizing
- Negotiating
- Instructing

6.	Does this position supervise others?	⊠ Yes	☐ No	
	Number directly supervised: 11.0 Complexity level of the positions supe Position Number(s) of those supervise	rvised: 6		
	90078 Construction Manager (9) 90158 Construction Manager (1) 51205 Civil Engineering Specialist			
7.	This position is responsible for:			
		Supervision Promotions	☐ Pay Level ☐ Discipline	
8.	Attach an Organizational Chart.			
	ATTACHED			

KNOWLEDGE:

This position requires knowledge of the concepts and theories of civil engineering, mathematics, the physical sciences, and public administration. The position requires a comprehensive knowledge of program management; applied research methods and techniques; contract administration principles; contract law and claims management; pre-stressed concrete; methods and practices of bridge or structure construction and construction engineering; engineering policy; materials properties, specifications, and test methods; and construction safety practices. The position also requires knowledge of highway economic, safety, and efficiency issues; project planning; State, federal, AASHTO, and FHWA standards; project specifications; the Montana Materials Manual, Montana Construction Manual and Standard Specifications for Road and Bridge Design; highway construction methods and techniques; transportation planning and design; field applications of highway engineering and construction; environmental rules and regulations; project management and documentation; and

SECTION III - Minimum Qualifications - List minimum requirements for the first day of work.

Critical knowledge and skills required for this position:

construction methods and practices. Supervisory responsibilities require knowledge of employment law, program requirements, and personnel management practices and techniques.

SKILLS:

This position requires advanced skills in planning and directing engineering activities; budgeting; applying analysis and judgment in arriving at solutions to difficult engineering and contract problems; communicating effectively verbally and in writing; exercising professional judgment to arrive at timely decisions in complex situations; establishing and maintaining effective working relationships; applying analysis and judgment in arriving at solutions and make appropriate choices among options and alternatives; and to motive and direct staff to meet Department goals.

Behaviors required to perform these duties?

- **Leadership:** Provides clear directions, technical assistance, and guidance to District staff to ensure effective operations and project activities. Motivates staff to achieve common objectives. Appropriately delegates responsibilities to competent staff.
- Analytical/Interpretive Thinking: Accurately applies general engineering standards, project requirements, and contract stipulations to specific construction issues.
- Decision Making: Evaluates multiple and ambiguous factors to resolve problems.
 Develops technically and legally defensible courses of action in response to project deficiencies, contract disputes, and related problems.
- Communication: Translates technical information to audiences of varied technical levels; communicates effectively with multiple staff, contractors, and cooperators verbally and in writing.
- Independence of Action: Determines appropriate responses to construction engineering and problems and deficiencies with minimal assistance or precedent. Serves as the District's technical authority in construction management and contract administration issues.

Education:

Check the <u>one box</u> indicating minimum eductirst day of work:	cation requirements for this position for a new employee the		
☐ No education required☐ High school diploma or equivalent☐ 1-year related college/voc. training	 □ Related AAS/2-years college/vocational training □ Related Bachelor's Degree □ Related Master's degree 		
Please specify the acceptable and related fields of study:			
Required/Acceptable: Civil Engineering			
Related: Engineering discipline that qualifies for registration as a Professional Engineer.			
Other education, training, certification, or licensing required (specify): Registration as a Professional Engineer (PE) in Montana is required.			

Experience:

Check the <u>one box</u> indicating minimum work-re employee the first day of work:	elated experience requirements for this position for a new	
☐ No prior experience required☐ 1 to 2 years	☐ 3 to 4 years ☑ 5 or more years	
Other specific experience (optional): At least two (2) years of supervisory and/or construction project management experience is required. Experience in highway construction is preferred.		
Alternative Qualifications: This agency will accept alternative methods of obtaining necessary qualifications.		
☐ Yes ⊠ No		
Alternative qualifications include: NONE SPECIFIED		
SECTION IV – Other Important Job Information		

NONE SPECIFIED

SECTION V – Signatures				
Signature indicates this statement is accurate and complete.				
Employee:				
Name:	_ Title:			
Signature:	Date:			
Immediate Supervisor:				
Name:	Title:			
Signature:	Date:			
Division/District Administrator:				
Name:	_ Title:			
Signature:	Date:			
Department Designee:				
Name: Jean Bond	Title: Chief, Employee Relations Bureau			
Signature:	_ Date:			
Recruitment Review: My signature below attests to my review of and determination that the minimum qualifications (education and experience) listed in this profile meet the established recruitment standards of MDT.				
Name:	_ Title: Human Resource Specialist (Helena/District)			
Signature:	Date:			



STATE OF MONTANA MONTANA DEPARTMENT OF TRANSPORTATION JOB EVALUATION

Prepared By: Communication & Momt Services Date: 12/13/04

This section is to be completed by a trained classifier in or contracted by the Human Resource Division or by the State Personnel Division.

Position Status: X Reclassified	☐ Vacant	☐ New Position	Career Ladder
Choice of Class Series: Engineering work assigned, overall role within Engineering Manager, 119417	•		• • • • • • • • • • • • • • • • • • •
Position Summary: The District C the delivery of major highway consmanagement support in developin and recommending standards policonstruction program operations. specifications, and estimates for a review and permitting processes; construction problems within property.	struction projects ag and implement icies, and procect The position is accuracy and abi monitoring contr	s throughout the Distri- ting program plans, g dures; and administeri- responsible for directi- lity to be constructed; act conformance; dete	ict. The position also provides oals and objectives; reviewing ing ongoing District ng the final review of plans, overseeing environmental ermining and resolving technical

engineering deficiencies and contract administration problems. The incumbent reports to the District Construction Engineering Manager (#51049) and provides direct supervision for 11 professional and

Classification Factor Level: 7

technical staff (11.0 FTE).

The predominant work of this position consists of: Construction Project and Construction Program Management (60%), which involves directing the final review of construction plans, specifications and estimates, developing solutions to a broad range of engineering deficiencies and contract administration problems, reviewing proposed contract plans and special provisions for technical construction problems, directing preparation of reports, studies, summaries, and research proposals to ensure sound judgment and engineering practices are incorporated, overseeing and coordinating environmental review and permitting processes necessary to complete construction projects in compliance with State and federal requirements, reviewing and approving change orders, payments, final project acceptance, etc., evaluating contractor proposals for value-engineering alternatives, providing engineering design advice and technical assistance to other Districts, MDT Engineering and Maintenance personnel and other entities, mediating disputes between contractors and District staff related to contract claims and project payments, and evaluating and recommending operational strategies and objectives to ensure District's construction program remains current with federal and other national standards by monitoring policies, procedures and specifications, implementing construction review and other strategies, and providing technical consultation on national uniform highway methods and design specs. This position serves as the Assistant District Construction Engineering Manager.

Factor level Comparison:

Factor level 7 is appropriate because the predominant work consists of managerial planning, coordination and construction program/project implementation. The work is diverse and includes responsibility for directing and overseeing cost effectiveness of a wide variety of construction projects, developing engineering solutions to a broad range of engineering deficiencies and contract

administration problems, coordinating the work of engineering and design professionals and contractors, and the testing of engineering concepts related to feasibility, constructability and value-added engineering alternatives. Management issues are advanced in that they require assessment of major highway construction project objectives, balanced with issues and decisions related to fiscal limitations, staff training, contractor ability to produce, economic impacts on contractors, costs and efficiency and a wide variety of other factors to ensure effective project/program delivery. The work also requires the development of long-term implementation strategies related to construction review results, trends in the highway construction and engineering fields, construction processes, materials standards, prefabrication processes, new technology and equipment, and changing environmental requirements, regulations and policies. Changes in these areas require the position to make operational changes, make critical policy decisions, and interpret often conflicting requirements and standards to ensure the District is meeting Department goals in a cost effective manner while ensuring compliance with state, national and other regulations. Level 7 is appropriate.

Benchmark Comparisons:

Classification Analyst:

Stronger than the benchmark, Engineering Project Manager, cc:182016, factor level 6. The benchmark performs technical level engineering construction work at the District level and oversees multiple phases of multiple projects within a District. The subject position is stronger due to its managerial role in planning, overseeing, coordinating and directing the Construction program at the District level.

More comparable to the benchmark, Engineering Manager, cc:005021, factor level 7. Both positions perform administration, supervision, direction and coordination of major aspects of Department programs (in the benchmark for the Materials Bureau, and in the subject position for District level Construction Engineering Program), and are heavily involved in planning, operational decision-making, managerial-level problem solving, implementation and oversight of major issues, policies and standards, and provision of high-level professional engineering oversight for major highway construction projects. They are overall, good comparisons, and both are in the range for level 7.

Name: Kristin Jacobson, CMS, LLC	Title: Consultant		
Signature:	Date: 12/13/04		
Agency Approval:			
Name: Jean Bond	Title: Chief, Employee Relations Bureau		
Signature:	Date:		